



Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 18.04.2023

version: 1

Revision: 18.04.2023

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier:

Trade name: **Theophylline**

Article number: 82668

CAS Number:

58-55-9

EC number:

200-385-7

Index number:

613-342-00-6

Registration number 01-2119450688-27-XXXX

1.2 Relevant identified uses of the substance or mixture and uses advised against:

No further relevant information available.

Application of the substance / the preparation: Reference substance

1.3 Details of the supplier of the safety data sheet:

Manufacturer/Supplier:

PhytoLab GmbH & Co. KG

Dutendorfer Str. 5-7

D-91487 Vestenbergsgreuth

Tel.: Germany/9163/88-327

Fax: Germany/9163/88-456

Mail: ref-substances@phytolab.de

Further information obtainable from: PLV_MSDS@phytolab.com

1.4 Emergency telephone number: Germany/9163/88-500

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture:

Classification according to Regulation (EC) No 1272/2008:



GHS06 skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.



GHS08 health hazard

Repr. 1A H360D May damage the unborn child.

2.2 Label elements:

Labelling according to Regulation (EC) No 1272/2008:

The substance is classified and labelled according to the CLP regulation.

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Hazard pictograms:



GHS06 GHS08

Signal word: Danger

Hazard statements:

H301 Toxic if swallowed.

H360D May damage the unborn child.

Precautionary statements

P201 Obtain special instructions before use.

P281 Use personal protective equipment as required.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P330 Rinse mouth.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards:

Restricted to professional users. The toxicological properties of this compound have not been fully evaluated.

Results of PBT and vPvB assessment:

PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/information on ingredients**3.1 Substances**

Synonyms: theophylline; 1,3-dimethyl-3,7-dihydro-1H-purine-2,6-dione

Molecular formula: C₇H₈N₄O₂

CAS No. Description

58-55-9 Theophylline

Identification number(s)

EC number: 200-385-7

Index number: 613-342-00-6

Additional information: chemical product

SECTION 4: First aid measures**4.1 Description of first aid measures:**

General information:

Induce vomiting only with medical help.

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Immediately remove any clothing soiled by the product.

In case of irregular breathing or respiratory arrest provide artificial respiration.

After inhalation:

In case of unconsciousness place patient stably in side position for transportation.

After skin contact:

If skin irritation continues, consult a doctor.

Immediately wash with water and soap and rinse thoroughly.

Immediately rinse with water.

After eye contact:

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing:

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; call for medical help immediately.

If symptoms persist consult doctor.

4.2 Most important symptoms and effects, both acute and delayed:

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed:

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media:

Suitable extinguishing agents:

Use fire extinguishing methods suitable to surrounding conditions.

5.2 Special hazards arising from the substance or mixture:

No further relevant information available.

5.3 Advice for firefighters:

Protective equipment: Wear fully protective suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

Avoid formation of dust.

6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for containment and cleaning up:

Dispose contaminated material as waste according to item 13.

6.4 Reference to other sections:

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling:

Handling corresponding to laboratory safety guidelines.

Thorough dedusting.

Keep receptacles tightly sealed.

Information about fire - and explosion protection:

Dust can combine with air to form an explosive mixture.

7.2 Conditions for safe storage, including any incompatibilities:

Storage:

Requirements to be met by storerooms and receptacles:

Store only in the original receptacle.

Information about storage in one common storage facility: Store away from foodstuffs.

Further information about storage conditions: Store in the dark.

Recommended storage temperature: 15-25 °C

Storage class: 6.1D

7.3 Specific end use(s): No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters:

Ingredients with limit values that require monitoring at the workplace: Not required.

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls:

Appropriate engineering controls: No further data; see item 7.

Individual protection measures, such as personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.

Do not eat, drink, smoke or sniff while working.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Respiratory protection: Required in case of dust formation.

Hand protection:

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

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Material of gloves:

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.



Nitrile rubber, NBR

Penetration time of glove material:

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye/face protection: Not required.**Body protection:**

Protective work clothing

Light weight protective clothing

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties:****General Information:****Physical state:**

Solid

Colour:

According to Certificate of Analysis

Odour:

No data available.

Odour threshold:

Not determined.

Molecular Weight**Melting point/freezing point:**

270-274 °C

Boiling point or initial boiling point and boiling range:

Undetermined.

Flammability:

Product is not flammable.

Dust explosion class:**Lower and upper explosion limit:****Lower:**

Not determined.

Upper:

Not determined.

Flash point:

Not applicable.

(Minimum) Ignition temperature:

Not determined.

Decomposition temperature:

Not determined.

Powder volume resistivity:**pH:**

Not applicable.

Dissociation constant:**Viscosity:****Kinematic viscosity:**

Not applicable.

Solubility in other solvents:**Dynamic:**

Not applicable.

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Solubility:

water: slightly soluble

Partition coefficient n-octanol/water (log value) at 23 °C: -0.00799909 (ECHA)

Vapour pressure: Not applicable.

Density and/or relative density:

Density at 25 °C: 1.35996 g/cm³ (ECHA)

Not determined.

Relative density: Not determined.

Vapour density: Not applicable.

Particle characteristics: See item 3.

9.2 Other information:

Appearance:

Form: Solid

Important information on protection of health and environment, and on safety.

Auto-ignition temperature: Not determined.

Explosive properties: Product does not present an explosion hazard.

Molecular weight 180.17 g/mol

Oxidising properties: Not determined.

Evaporation rate: Not applicable.

Information with regard to physical hazard classes:

Explosives Void

Flammable gases Void

Aerosols Void

Oxidising gases Void

Gases under pressure Void

Flammable liquids Void

Flammable solids Void

Self-reactive substances and mixtures Void

Pyrophoric liquids Void

Pyrophoric solids Void

Self-heating substances and mixtures Void

Substances and mixtures, which emit flammable gases in contact with water Void

Oxidising liquids Void

Oxidising solids Void

Organic peroxides Void

Corrosive to metals Void

Desensitised explosives Void

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SECTION 10: Stability and reactivity

- 10.1 Reactivity: No further relevant information available.
- 10.2 Chemical stability:
Thermal decomposition / conditions to be avoided:
Stable under constant-temperature (see 7.)
No decomposition if used and stored according to specifications.
- 10.3 Possibility of hazardous reactions: No data available.
- 10.4 Conditions to avoid: No further relevant information available.
- 10.5 Incompatible materials: Strong oxidising agents.
- 10.6 Hazardous decomposition products: no data available

SECTION 11: Toxicological information

- 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008
Acute toxicity: Toxic if swallowed.
LD/LC50 values relevant for classification:
Oral LD50 272 mg/kg (rat)
[ECHA]
Skin corrosion/irritation: Based on available data, the classification criteria are not met.
Serious eye damage/irritation:
Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation:
Based on available data, the classification criteria are not met.
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity: May damage the unborn child.
STOT-single exposure: Based on available data, the classification criteria are not met.
STOT-repeated exposure: Based on available data, the classification criteria are not met.
Aspiration hazard: Based on available data, the classification criteria are not met.
Additional toxicological information:
The product should be handled with the care usual when dealing with chemicals.
CMR effects (carcinogenity, mutagenicity and toxicity for reproduction):
Repr. 1A
- 11.2 Information on other hazards
Endocrine disrupting properties: Substance is not listed.

SECTION 12: Ecological information

- 12.1 Toxicity:
Aquatic toxicity:
Quantitative data concerning the ecological properties of the product are not available.
- 12.2 Persistence and degradability: No further relevant information available.

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12.3 Bioaccumulative potential:

Due to the distribution coefficient n-octanol/water an accumulation in organisms is not expected.

12.4 Mobility in soil: No further relevant information available.

12.5 Results of PBT and vPvB assessment:

PBT: Not applicable.

vPvB: Not applicable.

12.6 Endocrine disrupting properties:

The product does not contain substances with endocrine disrupting properties.

12.7 Other adverse effects:

Remark: Do not release into sewage, water or soil.

Additional ecological information:

General notes:

Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

SECTION 13: Disposal considerations

13.1 Waste treatment methods:

Recommendation:

Dispose product and packaging in accordance with regional environmental laws.

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

14.1 UN number or ID number:

ADR, IMDG, IATA

UN1544

14.2 UN proper shipping name:

ADR

UN1544 ALKALOIDS, SOLID, N.O.S.
(Theophylline)

IMDG, IATA

ALKALOIDS, SOLID, N.O.S. (Theophylline)

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14.3 Transport hazard class(es):

ADR, IMDG, IATA



Class

6.1 Toxic substances.

Label

6.1

14.4 Packing group:

ADR, IMDG, IATA

III

14.5 Environmental hazards:

Marine pollutant:

No

14.6 Special precautions for user:

Warning: Toxic substances.

Hazard identification number (Kemler code): 60

EMS Number:

F-A,S-A

Stowage Category

A

14.7 Maritime transport in bulk according to

IMO instruments:

Not applicable.

Transport/Additional information:

ADR

Limited quantities (LQ)

5 kg

Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 1000 g

IMDG

Limited quantities (LQ)

5 kg

Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 1000 g

UN "Model Regulation":

UN 1544 ALKALOIDS, SOLID, N.O.S. (THEOPHYLLINE), 6.1, III

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

Directive 2012/18/EU:

Named dangerous substances - ANNEX I: Substance is not listed.

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Seveso category H2 ACUTE TOXIC

Qualifying quantity (tonnes) for the application of lower-tier requirements 50 t

Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t

DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II:

Substance is not listed.

REGULATION (EU) 2019/1148

Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3)):

Substance is not listed.

Annex II - REPORTABLE EXPLOSIVES PRECURSORS: Substance is not listed.

National regulations:

Information about limitation of use:

When using chemicals, legal regulations have to be regarded (chemical law, maternity protection, protection of minors).

Waterhazard class: Water hazard class 1 (Assessment by list): slightly hazardous for water.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organisation

ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 3: Acute toxicity – Category 3

Repr. 1A: Reproductive toxicity – Category 1A